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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/047,454

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Victor B. Kley

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EXAMINER

LUU, THANH X

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 02/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/047,454

Applicant(s)

KLEY, VICTOR B.

Examiner

Thanh X. Luu

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-42 and 55-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-8, 10-28, 31, 32, 40-42 and 55-57 is/are allowed.
- 6) ☒ Claim(s) 29, 30 and 33-35 is/are rejected.
- 7) ☒ Claim(s) 36-39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to amendments and remarks filed December 23, 2004. Claims 1-8, 10-42 and 55-57 are currently pending.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 33-35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

It appears that Applicant has failed to disclose an embodiment in which the tip can be electrostatically prevented from moving toward the object. Applicant admits in the remarks filed December 23, 2004 that Theodore's electrostatic embodiment prevents movement away from the object and does not prevent movement toward the object. It is unclear how the two electrostatic embodiments (Applicant's electrostatic embodiment and Theodore's) function differently, since the same means is used to carry out the electrostatic embodiments. Nowhere in the original disclosure does Applicant state that the electrostatic embodiment can prevent the tip from moving toward the object.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 29, 30 and 33-35, as understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Theodore et al. (U.S. Patent 5,338,932).

Regarding claims 29, 30 and 33-35, Theodore et al. disclose (see Fig. 1) a scanning probe microscope assembly for examining an object (30), the scanning probe microscope assembly having a tunneling current mode and an atomic force mode (see col. 2, lines 10-11), the microscope comprising: a probe having a base (13), a cantilever (12) connected to the base, and a tip (14) connected to the cantilever; tunneling current means (16, 29) for inducing and detecting a tunneling current between the tip and the object during the tunneling current mode; and atomic force means (26, 27, positioning means (not shown)) for inducing atomic force interaction between the tip and the object and for detecting deflection of the cantilever due to the atomic force interaction during the atomic force mode; and holding means (15, 17, 18) for immobilizing the tip (see col. 4, lines 30-35, stiffness of ten thousand Newton/meter) so as to prevent the tip from moving toward or away from the object with respect to the base during the tunneling current mode (see also col. 3, lines 55-60). Theodore et al. further disclose (see Fig. 1)

providing a clamping structure (15, 17, 18) connected to the base and controlling the clamping structure to immobilize the tip with respect to the base during the tunneling current mode. Theodore et al. also disclose (see Fig. 1) the cantilever has an upper and lower surface and holding is accomplished by a member (11) over the upper surface of the cantilever; providing an insulating layer (air) between the cantilever and the member and applying a voltage to immobilize the tip as claimed.

Allowable Subject Matter

5. Claims 1-8, 10-19, 21-28, 31, 32, 40-42 and 55-57 are allowed over the prior art of record.
6. Claims 36-39 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments filed December 23, 2004 have been fully considered but they are not persuasive.

Applicant asserts that Theodore does not disclose preventing the tip from moving toward the object during tunneling current mode. Examiner disagrees. The claim state "toward or away from the object." As Applicant admits in the remarks filed December 23, 2004, Theodore increases the resistance of movement of the cantilever upward (i.e. prevents movement away from the object). Thus, the tip is prevented at least from moving away from the object as claimed. Also, since the cantilever is immobilized to a stiffness of tens of thousands of Newtons, as understood, the tip is prevented from

moving toward or away from the object as claimed.

Thus, as set forth above, the rejection is proper.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is 571-272-2441. The examiner can normally be reached on M-F 6:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thanh X Luu
Primary Examiner
Art Unit 2878

02/2005